DOCUMENT RESUME

ED 449 465 CS 014 220

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TITLE Whole Language Lives On: The Illusion of "Balanced" Reading Instruction.
INSTITUTION Thomas B. Fordham Foundation, Washington, DC.
PUB DATE 2000-10-00
NOTE 32p.
AVAILABLE FROM Thomas B. Fordham Foundation, 1627 K St., NW, Suite 600, Washington, DC 20006. Tel: 888-823-7474; Fax: 202-223-9226. For full text: http://www.edexcellence.net/library/wholelang/moats.html.
PUB TYPE Opinion Papers (120)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Position Papers; Primary Education; Public Schools; *Reading Instruction; *Reading Research; *Reading Skills; Student Needs; Theory Practice Relationship; *Whole Language Approach
IDENTIFIERS *Balanced Reading Instruction

ABSTRACT

This position paper contends that the whole language approach to reading instruction has been disproved by research and evaluation but still pervades textbooks for teachers, instructional materials for classroom use, some states' language-arts standards and other policy documents, teacher licensing requirements and preparation programs, and the professional context in which teachers work. The paper finds that many who pledge allegiance to "balanced reading" continue to misunderstand reading development and to deliver "poorly conceived, ineffective reading instruction." It argues that "rooting out whole language" from reading classrooms calls for effort on eight separate fronts. The paper describes what whole language is, why it is contradicted by scientific studies, how it continues in education, and what should be done to correct the situation. (Contains a glossary and 57 notes.) (NKA)

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The Illusion of "Balanced" Reading Instruction

by Louisa Cook Moats

OCTOBER 2000

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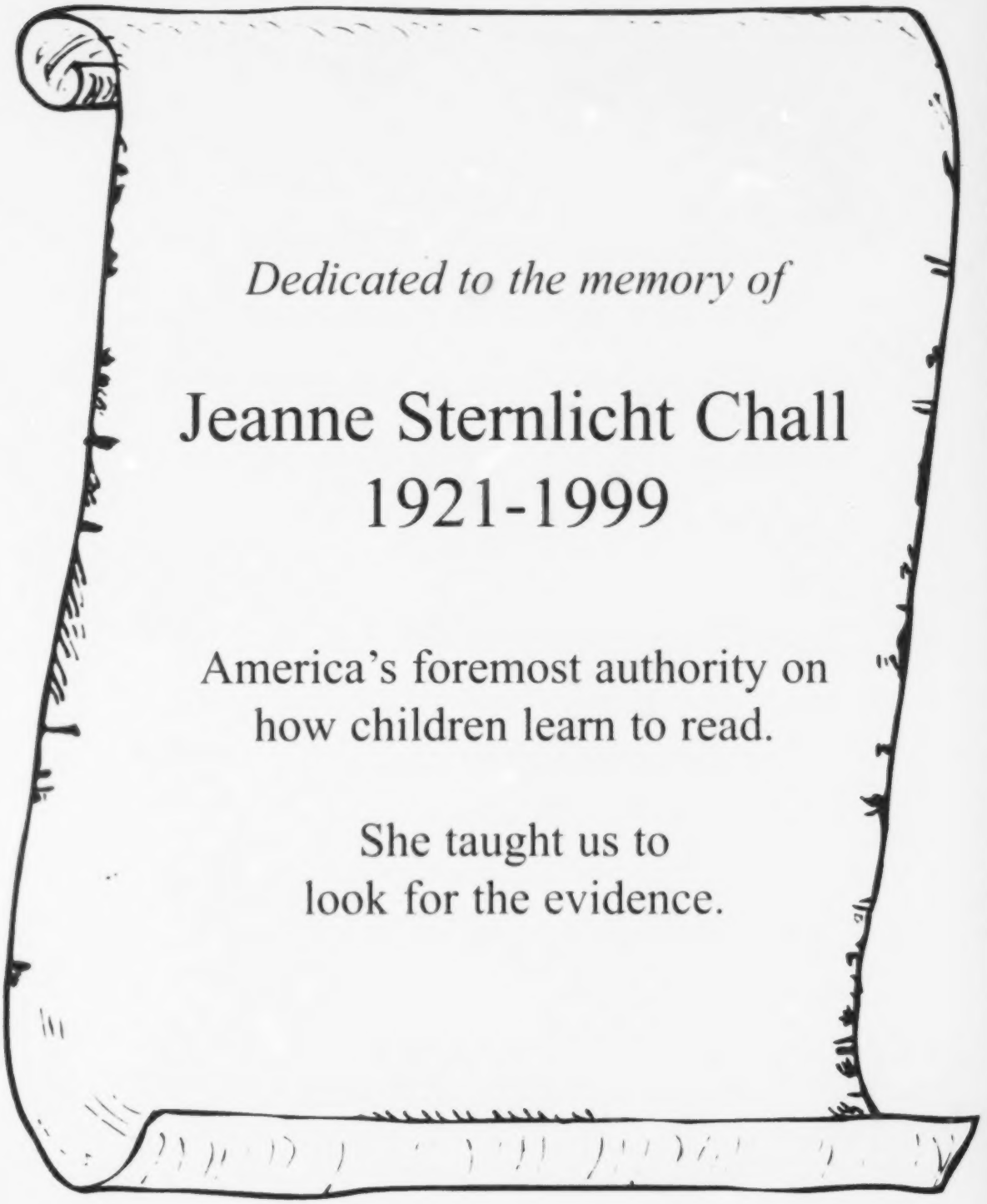


Dedicated to the memory of

Jeanne Sternlicht Chall
1921-1999

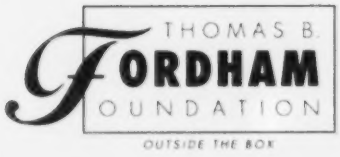
America's foremost authority on
how children learn to read.

She taught us to
look for the evidence.

Whole Language Lives On:

The Illusion of "Balanced" Reading Instruction

by
Louisa Cook Moats



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Foreword

Regular readers of this foundation's publications and web site know we believe strongly that schools should utilize "best practices" that are supported by scientific research and should eschew classroom methods that do not work. In no domain of education is that contrast more vivid than in teaching young children to read. No domain has been studied more intensely. None has yielded clearer and more definitive findings about what works and what does not. Yet no domain is more vulnerable to the perpetuation of bad ideas and failed methods.

Three things are clear about early reading:

First, it isn't being handled well in American schools. Four in ten of our fourth-graders lack basic reading skills. Tens of millions of adults are weak readers. Millions of children are needlessly classified as "disabled" when, in fact, their main problem is that nobody taught them to read when they were five and six years old.

Second, we know what works for nearly all children when it comes to imparting basic reading skills to them. (The scientific consensus is admirably summarized in the pages that follow.)

Third, we also know what doesn't work for most children. It's called "whole language."

Yet whole language persists, despite efforts by policymakers and reading experts to root it out. Today, though, it often disguises itself, not using the term "whole language" but, rather, wearing the fig leaf of "balanced" instruction. A lot of people who have a casual acquaintance with the research have persuaded themselves that balanced reading instruction means a little of this, a little of that. Take a cup of phonics from one cupboard, add a half-pint of whole language from the fridge, and the resulting blend will succeed with children while avoiding the battles and conflicts of the "reading wars." Everyone will be happy, and all will be well.

The problem is that it doesn't work that way. What's going on in many places in the name of "balance" or "consensus" is that the worst practices of whole language are persisting, continuing to

inflict boundless harm on young children who need to learn to read. How and why that is happening—and how and why such practices are misguided and harmful—are what this report is about. In its pages, Louisa Cook Moats describes the whole-language approach; shows why it doesn't work and how it has been disproven by careful research; and explains why it nonetheless persists in practice and what should be done about that.

We don't kid ourselves. Rooting out failed methods of reading instruction from U.S. primary classrooms won't be easy. Those roots run deep, perhaps now deeper than ever, considering their new coating of "balance." Yet Dr. Moats persuasively makes the case that this is a task that must be taken on.

Louisa Moats is currently project director of the National Institute of Child Health and Human Development (NICHD) Early Interventions Project in Washington, DC, a multiyear study of early reading instruction. She is one of the world's leading voices for the application of reading research in teacher preparation and classroom instruction. After receiving her doctorate in reading at Harvard, Dr. Moats worked as a psychologist and consultant with individuals, schools, and education agencies. She assisted the California State Board of Education in implementing the California Reading Initiative. Her recent book, *Speech to Print: Language Essentials for Teachers* (Brookes Publishing, 2000), is the basis for the innovative courses she teaches at the Greenwood Institute in Putney, Vermont, and Simmons College in Boston. Author of several other books and numerous journal articles, she currently serves as a national board member of the International Dyslexia Association. Readers wishing to contact Dr. Moats directly may write her at the NICHD Early Interventions Project, 825 North Capitol Street, NE, 8th Floor, Washington, DC 20002, or e-mail her at l.moats@worldnet.att.net.

We are honored to dedicate this report to the memory of Jeanne Sternlicht Chall, who taught not only Louisa Moats but also hundreds of other reading experts and teachers. Professor (and professor *emerita*) at the Harvard Graduate School of Education from 1965 until her death in 1999 at the age of 78, Jeanne Chall was, quite simply, the nation's foremost authority on how children learn to read and how to teach them that most basic of basic skills. Her great book, *Learning to Read: The Great Debate*, first published in 1967, was the first to enunciate clearly the essential elements of the research synthesis that has since been refined and confirmed by, among others, the National

Academy of Sciences, the National Institute of Child Health and Human Development, and the recent National Reading Panel. Endlessly curious, astoundingly prolific, tireless in her pursuit of the truth and her capacity to propagate it through her many students and disciples, passionate in her commitment to the effective education of children (especially disadvantaged youngsters), Jeanne Chall embodied superb research skills and a rare sense of how to turn scholarship into practice. We're deeply grateful for her contribution—and we miss her.

The Thomas B. Fordham Foundation is a private foundation that supports research, publications, and action projects in elementary/secondary education reform at the national level and in the Dayton area. Further information can be obtained from our web site (www.edexcellence.net) or by writing us at 1627 K Street, NW, Suite 600, Washington, DC 20006. (We can also be e-mailed through our web site.) This report is available in full on the Foundation's web site, and hard copies can be obtained by calling 1-888-TBF-7474 (single copies are free). The Foundation is not connected to or sponsored by Fordham University.

Chester E. Finn, Jr., President
Thomas B. Fordham Foundation
Washington, DC
October 2000

Executive Summary

The whole-language approach to reading instruction continues to be widely used in the primary grades in U.S. schools, despite having been disproven time and again by careful research and evaluation. Whole language still pervades textbooks for teachers, instructional materials for classroom use, some states' language-arts standards and other policy documents, teacher licensing requirements and preparation programs, and the professional context in which teachers work. Yet reading science is clear: young children need instruction in systematic, synthetic phonics in which they are taught sound-symbol correspondences singly, directly, and explicitly. Although most state education agencies, school districts, and federal agencies claim to embrace "balanced" reading instruction—implying that worthy ideas and practices from both whole-language and code-emphasis approaches have been successfully integrated—many who pledge allegiance to balanced reading continue to misunderstand reading development and to deliver poorly conceived, ineffective instruction.

Almost every premise advanced by whole language about how reading is learned has been contradicted by scientific investigations that have established the following facts:

- Learning to read is not a "natural" process. Most children must be taught to read through a structured and protracted process in which they are made aware of sounds and the symbols that represent them, and then learn to apply these skills automatically and attend to meaning.
- Our alphabetic writing system is not learned simply from exposure to print. Phonological awareness is primarily responsible for the ability to sound words out. The ability to use phonics and to sound words out, in turn, is primarily responsible for the development of context-free word-recognition ability, which in turn is primarily responsible for the development of the ability to read and comprehend connected text.
- Spoken language and written language are very different; mastery of each requires unique skills.
- The most important skill in early reading is the ability to read single words completely, accurately, and fluently.
- Context is not the primary factor in word recognition.

Despite overwhelming evidence, the reading field rushed to embrace unfounded whole-language practices between 1975 and 1995. The effects have been far-reaching, particularly for those students who are most dependent on effective instruction within the classroom.

Whole language persists today for several reasons. A pervasive lack of rigor in university education departments has allowed much nonsense to infect reading-research symposia, courses for teachers, and journals. Many reading programs have come to covertly embody whole-language principles. Additionally, many state standards and curricular frameworks still reflect whole-language ideas.

Rooting out whole language from reading classrooms calls for effort on eight separate fronts:

1. Every state should have language-arts content standards and curricular frameworks for each

grade from kindergarten through third grade that are explicitly based on solid reading-research findings.
2. State assessments should be calibrated to show the effects of reading instruction as delineated in well-written state standards.
3. State accountability systems should emphasize the attainment of grade-appropriate reading, spelling, and writing skills by third grade.
4. States should adopt rigorous licensing exams for new and veteran teachers alike.
5. Alternative teacher-preparation programs should be encouraged.
6. Traditional teacher-preparation programs of education should focus on training and retention of effective teachers.
7. State-guided textbook adoptions should focus on the alignment of the material with research evidence about what works best, and publishers should be required to show for whom their product works and under what conditions.
8. Journalists and policymakers need to examine closely instructional programs and packages offered in the name of "balanced" reading.

Glossary

code-emphasis: An approach to reading instruction in which lessons are organized around the systematic teaching of letter-sound correspondences and patterns, and children are taught to sound out words using phonic knowledge.

graphophonic: A whole-language term that refers to the written spellings for individual speech sounds, more properly termed sound-symbol or phoneme-grapheme associations.

holism: The philosophy of teaching reading that values preservation of the whole word over segmentation of the word or other language entities into parts or synthesis of the whole from the parts.

morphemes: The smallest meaningful units in language, such as the prefix, root, and suffix in ob-serv-ance.

orthography: The writing system for a language. English is an alphabetic, phonemic, and morphemic orthography; Chinese characters are a logographic orthography.

phonemes: The smallest sound units (consonants and vowels) that combine to make the word of a language, for example /sh/, /e/, /l/ in "shell."

phonological: Having to do with the speech sound system of a language, including the production and interpretation of the sound patterns of language.

Introduction and Summary

In policy circles, the storm over reading instruction would seem to have calmed. State agencies, large school districts, and the U.S. Department of Education all claim to embrace *balanced* reading instruction. The concept of *balance* implies, in turn, that worthy ideas and practices from both whole-language and code-emphasis approaches to reading have been successfully integrated into an eclectic mix that should go down easily with teachers and kids. Educators who wish to take no stand in the reading wars may safely embrace a little of each perspective and claim that what they are doing is both based on "the latest research" and grounded in a philosophical synthesis between two previously warring positions.

Appearances can be deceiving, however, and painless solutions are often wrong. Unfortunately, many who pledge allegiance to balanced reading continue to misunderstand reading development and to deliver poorly conceived, ineffective instruction. In fact, despite numerous claims by people in the field, the deep division between reading science and whole-language ideology[1] has not been bridged. Probably it cannot and should not be. In my view, a marriage of these perspectives is neither possible nor desirable. It is too easy for practitioners, while endorsing "balance," to continue teaching whole language without ever understanding the most important research findings about reading or incorporating those findings into their classroom practice. Wrong-headed ideas about reading continue to characterize textbooks, reading course syllabi, classroom instructional materials, state language-arts standards, and policy documents.

Unfortunately, many who pledge allegiance to "balanced" reading continue to misunderstand reading development and to deliver poorly conceived, ineffective instruction.

Here is what reading science actually tells us about effective literacy instruction:

- All children need explicit, systematic instruction in phonics and exposure to rich literature, both fiction and nonfiction.
- Although children need instruction in phonics in early reading development, even then, attention to meaning, comprehension strategies, language development, and writing are essential.
- At all times, developing children's interest and pleasure in reading must be as much a focus as developing their reading skills.[2]

Well-done studies of reading instruction support systematic, synthetic phonics in which children are taught sound-symbol correspondences singly, directly, and explicitly.[3] Further, such studies show that children should be taught directly how to blend those sound-spellings (such as the /ch/, /i/, and /ck/ in "chick") until they can decode almost any unknown word. This instruction should be part of, and linked to, a complete instructional program that includes phoneme awareness, plentiful reading to build fluency, vocabulary development, and guided oral reading to build comprehension.

Note, though, that this prescription is *not* equivalent to an eclectic combination of whole language and phonics. Whole-language approaches by definition minimize or omit direct, systematic teaching of language structure (phoneme awareness, spelling patterns and rules, grammar, and so forth) in the name of preserving an unbroken focus on reading

for meaning. To the onlooker, these points may sound trivial; in the classroom, however, such distinctions have profound consequences.

True, reading policy and practice have been righted to some extent since the mid-1990s when California's panic over low reading achievement propelled radical alterations of that state's standards, assessments, curriculum, and criteria for adopting instructional materials and licensing teachers. California's policies on early reading are now more explicit and more compatible with reading science than perhaps any state but Texas. Yet resistance to the California reading initiative has been fierce, especially in the state universities whose faculties have denounced the legislative changes and continue to promote ideas and programs that are saturated with whole-language ideology, now disguised under other names. Some whole-language defenders claim that they have *always* advocated teaching both phonics and comprehension, and thus revision of their understandings about reading is not necessary.[4] Others insist that they understand the importance of phonological skills in early reading, but they then fail to practice or teach them systematically.[5] Still others confirm that phonological skills are important for learning to read, even as they caution teachers that phonemic awareness and phonics instruction can be dangerous, boring, ineffective, or irrelevant, and shouldn't be overdone. Such a tone echoes even through *Teaching Children to Read*, the recent report of the National Reading Panel.[6] Where sound policy is ahead of practice, whole language may appear to be dying. Inside the classroom, however, it's not dead at all.

The mission of this paper is to describe what whole language is, why it is contradicted by scientific studies,[7] how it continues in education, and what should be done to correct that situation. So long as whole-language ideas influence classroom practice to any great extent, students who are most dependent on effective instruction inside the classroom stand to lose. Recognizing and confronting bankrupt ideas and practices, even though they are masquerading under benign terms such as *balanced reading*, continues to be an important mission for education leaders and policymakers.

What *Is* Whole Language?

Even at its most popular, whole language defied definition by those who attempted to study it objectively.[8] Among the publications of whole-language advocates, one finds agreement that it is primarily a system of beliefs and intentions.[9] It embraces a set of practices in teaching reading and writing that are derived from a more general philosophy of teaching and learning. Relying on theory derived largely from introspection into their own mental processes, Ken Goodman and Frank Smith in the late 1960s advanced the notion that meaning and purpose should be the salient goals in early reading instruction.[10] Observing that adults appear to process the written word without recoding it letter by letter or sound by sound, and claiming that children should learn to read as naturally as they learn to speak, Smith asserted that the decomposition of words into sounds was pointless; that attention to letters was unnecessary and meaningless; that letter-sound correspondences were "jabberwocky" to be avoided; and that skill development was largely boring, repetitive, nonsensical, and unrelated to developing *real* readers.[11] Smith, Goodman, and their disciples pushed ideas that were eagerly and readily embraced by progressive educators turned off by drab basal readers,[12] mechanistic drills, and the knowledge that the

basal readers in use had not solved all of their instructional challenges. Teachers were persuaded that the cause of most reading failure was insufficient emphasis on reading real books for real purposes. By the mid-1980s, schools were ready to throw out basal readers, phonics workbooks, spelling programs, and other "canned" material so that teachers could create individualized reading instruction with "authentic" children's literature.

The International Reading Association (IRA) and the National Council for Teachers of English vigorously promoted the philosophy and practices of whole language. Publishing houses, university reading departments, state education agencies, and professional development providers jumped on the bandwagon. The ideas were disseminated through Internet connections, teacher journals that do not require articles to meet standards of scientific accuracy, courses and textbooks used in schools of education, and instructional manuals for teachers. Recently published books and articles[13] continue to characterize the orthodoxy of whole language as follows:

> Whole-language advocates believe that teachers who teach component skills and who make reading a conscious process may spoil the reading experience for children.

Children and adults use similar strategies to read and spell. Whole-language believers assert that children process print and comprehend it like adults. Children will learn from imitating adult reading. The teacher is a model of adult literacy, and modeling is a method for teaching children. Thus, the teacher is encouraged to sit in front of the class and to be seen reading silently for a portion of each day in which the children are also to be reading silently or in pairs. The teacher is also to read aloud, pointing to the print in a big book, as children follow along. The children may point to the words as the teacher reads them. The passage is read several times this way until it is memorized.[14]

Although this traditional practice may be worthwhile, "shared reading" in whole language has replaced instruction in how to read the words sound by sound. Children are expected to figure out for themselves the connection between the letters and the sounds of the words as the adult points to them. There is no further explication of how the letters represent words. The assumption that children learn like adults also translates into student choice of reading material, a focus on advanced reading comprehension strategies for young children, avoidance of reading groups or sequential oral reading, and ample time in school for independent silent reading in the company of others (Drop Everything and Read!). These activities are the instructional core of a whole-language curriculum, not ancillary components.

Spelling, like reading, is meant to happen by having children imitate the stages and characteristics of adult writing. Debbie Powell and David Hornsby, in a best-selling handbook for teachers, state, "We feel that there are no stages of development in terms of the strategies spellers use because the strategies beginning spellers use are the same as those of mature spellers."[15]

Learning to read and spell is just like learning to talk. All language is naturally acquired, according to whole-language devotees. Reading is analogous to listening; children's brains are focused on meaning as language is processed, not on the structure or form of language. To focus instead on structure and form is unnatural and unnecessary. Children will extract the structure and form of print if they are exposed to it sufficiently in the context of meaning-making activities, just as they have extracted the rules of phonology and syntax in oral language with-

out any formal instruction. Thus, the teacher is instructed to stress the meaning of what is being read, to ask always if a word the child misread "makes sense," and to emphasize imitative reading of "whole, authentic texts" even if the child cannot read them independently. The acquisition of the alphabetic code is a minor concern because it will happen if children have a purpose for learning it.

Phoneme awareness, phonics, spelling, punctuation, and other skills of written language can be learned "naturally." "Most children will learn to read and write with no explicit instruction in phonics and spelling," whole-language experts advise.[16] The word "naturally," which connotes a wholesome and spontaneous process unspoiled by human tampering, means without deliberate practice. Natural learning is playful, incidental, and easy. Phoneme awareness will happen if children play rhyming games; spelling will happen if children write; word recognition will happen if children follow the print as the adult reads; and comprehension will happen if children's curiosity is piqued. The teacher needn't follow a structure or sequence; she is to share, guide, and facilitate as the child discovers how reading works. Powell and Hornsby state, "Proficient readers easily recognize most words and gain meaning usually without even attending to all of the letters or even all of the words, because their ability to decode is largely automatic and subconscious."[17] Whole-language advocates believe that teachers who teach component skills and who make reading a conscious process may spoil the reading experience for children.

> According to whole-language approaches, teaching all the letter-sound correspondences, and teaching children the skills to sound out an entire word, is unnecessary.

Teach phonics and spelling on an "as needed" basis, that is, after students make errors on words while they are reading and writing. Phonics is allowed into the whole-language classroom, but it is not taught first, foremost, or formally. The teacher is to observe errors ("miscues") children are making while reading text and is then to provide "mini-lessons" on the word pattern or sound-symbol correspondence the children missed while reading.[18] The children's errors dictate what will be taught. The goal is to read a specific text, not to learn skills that may generalize to all texts.

Too much phonics instruction is harmful to children, so keep it unobtrusive. In whole-language orthodoxy, phonics is seen as a distraction, an interference that prevents real reading from occurring. Phonics and other instruction in component reading skills are necessary evils that divert children from reading authentic text and thinking creatively about its content. Teachers are warned that if children receive too much phonics instruction outside of a meaningful context, they will become "word callers" who do not understand the real purposes of reading. Skill lessons are to be unobtrusive, brief, and, if possible, disguised. Teaching phonics should be a covert operation.

Children should construct their own insights into language. The skilled whole-language teacher is coach, model, and guide. Concepts are to be discovered, not presented, because discovery, according to the whole-language canon, promotes higher-order thinking. If the goal of the lesson is to have children read words with /o/ and notice all the ways the /o/ sound is spelled, the teacher does not provide the list of the spellings for /o/, examples of each, and planned practice to ensure their recognition. Children are to construct their own knowledge of /o/. The children may be asked to search a text for all the words with the /o/ sound and then group them according to their spellings (ow, oe, oa,

o, ough, and so forth). Although active engagement is a principle of good teaching, the discovery approach to language skills can be imprecise and unnecessarily time consuming. It should not replace direct teaching of concepts.

It is unimportant to teach strategies for reading single words out of context. According to whole-language doctrine, the point of reading is not to read individual words; it is to understand connected text. This truism has been translated into a prohibition against teaching or testing the child's ability to read single words out of context. Work on word recognition is minimized in favor of literature-related activities, even in the beginning stages when children cannot yet read. Accuracy in word reading is not valued for its own sake. Children's reading errors (miscues) are accepted if the error is the same part of speech as the misread word or if it does not change the meaning of the passage.[19] The teacher is directed away from the importance of accurate word reading out of context.

Good readers can recognize words on the basis of a few sound-symbol correspondences, such as beginning and ending consonants, and don't really need to know the inner details, such as vowels. In whole language, reading is viewed as a process of predicting words on the basis of meaning and context. The good reader samples the print, and detailed decoding of all the sounds in words is unnecessary. As a consequence, teaching all the letter-sound correspondences, and teaching children the skills to sound out an entire word, is unnecessary. Thus, many so-called phonics activities in whole-language classrooms emphasize the decoding of initial consonants (and maybe end consonants) and word families (that is, the part of a syllable composed of the vowel and all the consonants that follow it, such as -ild, -ank, or -odge), but complete knowledge of the sound-symbol system is not emphasized.

When a child is reading and cannot recognize a word, the child should be asked to guess at the word from context and then sound the word out if guessing does not yield a word that would make sense in the sentence. On a third-grade teacher's wall, in a classroom in Washington, DC, where I conduct a research project, is the following poster:

> If a word in a sentence is unfamiliar, read to the end of the sentence. Skip the word you do not know. After reading the sentence, use the *context* to guess the word. If you still do not know the word, do the following:
>
> Think about your letter sounds.
>
> Think about word parts.
>
> Try to say the word. (Does it make sense?)
>
> If you still don't know the word, look it up in the glossary or dictionary.
>
> Ask someone for help.

Whole language dictates that recognition of unknown words is a function of three "cueing systems."[20] Semantic, syntactic, and graphophonic processes are depicted as the enablers of functional reading, although the graphophonic cueing system (an invention of whole language, not of cognitive psychology) plays a minor, back-up role in whole-language models of reading. The sense of the passage is supposed to drive word recognition. The graphophonic cueing system is to be deployed as a strategy of last resort if context-based guessing has not yielded the correct word.[21] The problem with the model, however, is that skilled readers do not rely on context to read words. They recognize them out of context by their letter-sound correspondences.

A Typical Whole-Language Class[22]

A first- or second-grade classroom in which whole-language ideas predominate is not the traditional class of bygone years. It has clusters of desks, not rows; the space is not arranged so that children focus on the teacher in front of the class. Learning centers and clusters of desks lend themselves to individualized, self-directed, and small-group learning. A classroom library corner has many books of different genres and a comfortable place to read. Little use is made of the chalkboard. Paper charts prevail. There is a prominent "word wall," on which high-frequency vocabulary is placed in alphabetical order. Words such as *off, on, orange, open, our,* and *oil* might all be placed under Oo. The varying sounds of those letter correspondences are irrelevant to the presentation.

Children gather on the floor around the teacher's chair during reading instruction. The teacher introduces a lesson with a "shared" reading; she previews a selection with the youngsters by taking a "picture walk" through the book's illustrations. She introduces new vocabulary meanings needed to understand the story, but there is little reference to word structure. The five to ten new words on the vocabulary list are presented as if they should be recognized on sight, by their appearance and context. Vocabulary words are selected for their meanings, not for their sound-symbol correspondences, so they are not used to reinforce a lesson on sound-symbol decoding. The teacher reads the book aloud as she follows the text with her finger. She leads a discussion about the story, eliciting from children their prior knowledge of the content and their questions about the content. After the story, she teaches a phonics mini-lesson on a family of words with similar spellings, by listing them and asking the children to read them aloud. The words are chosen because of their use in the text.

More readings of the text follow on subsequent days. By week's end, children may have read the same text three or four times, the first few by choral reading and patterning. When children take turns reading, they are encouraged to refer to the sense of the text to figure out unknown words. The teacher gives cues such as, "what would make sense there," "look at the pictures," "it rhymes with ____," or "look at the beginning sound," when a child is stuck. Assignments often involve writing or illustrating a personal response to the text in a reader-response journal. Spelling instruction is given on those words that the children misspell, after they have been used in writing. During instruction, the children are asked to invent what they think the likely spelling of a word might be (Have a go!) before the teacher gives them the correct spelling. There are no spelling lists or spelling workbooks. Children are expected to collaborate as they work on reading and writing projects. This is a constructivist environment: knowledge and truth will be discovered if teachers put children in the lead.

What's Wrong with Whole Language?

Almost every premise advanced by whole language proponents about how reading is learned has been contradicted by scientific investigations. Almost every practice stemming from these premises has been less successful with groups of both normally developing and reading-disabled children than practices based on reading science. As Michael Pressley, editor of *Educational Psychologist*, has remarked, "At best, much of whole-language thinking...is obsolete, and at worst, much of it never was well informed about children and their intellectual development...."[23]

Not all consequences of whole-language ideology have been detrimental; mistaken beliefs about early reading acquisition have also been associated with some worthwhile ideas and sensible strategies such as encouraging student self-assessment, using classic children's literature, reading aloud daily, organizing collaborative groups, and involving parents and students in literacy homework.[24] Most educators commonly hold such ideas. They are not the core ideas on which whole language was constructed, however, and they are not the intellectual property of whole language. Whole-language beliefs about the psychology of basic reading instruction, and the practices that have been based on those beliefs, are misinformed in theory and ineffective in application.

> Almost every whole-language practice has been less successful with groups of both normally developing and reading-disabled children than practices based on reading science.

The National Reading Panel's *Teaching Children to Read* reviews once more what *is* known about the psychology of reading and reading instruction. It does not evaluate whole language directly, but it does synthesize evidence on critical components of teaching reading. It resonates with several other reputable reviews of research, including Marilyn Adams's *Beginning to Read*, Jack Fletcher and G. Reid Lyon's summary of the National Institute of Child Health and Human Development's studies of reading,[25] and Catherine Snow, M. Susan Burns, and Peg Griffin's *Preventing Reading Difficulties in Young Children*. The tenets and practices of whole language are contradicted by the following facts:

Learning to read is not natural.[26] Large numbers of children fail to learn to read with fluency, accuracy, and comprehension. Alphabetic writing systems are a late cultural invention for which we are not biologically specialized. Only some languages have written symbol systems, and many of those writing systems represent whole words, concepts (morphemes), or syllables. Only some of the most recently invented writing systems represent individual speech sounds. Spoken language may be hard-wired in the human brain, but written language is an acquired skill that requires special, unnatural insights about the sounds in words. Most children must be taught to read through a rather protracted process in which they are made aware of sounds and the symbols that represent them, and then learn to apply these skills automatically and attend to meaning.

The alphabetic principle is not learned simply from exposure to print. Children can understand our alphabetic writing system if they have acquired a more fundamental understanding called phonological awareness. That is, in order to read new words written with an alphabetic system, children need to be able to map the symbols to the speech sounds that make up spoken words. Children who lack the required insights often are unable to read or spell well, even if they are reasonably intelligent or acquainted with the information in books. Phonological awareness is primarily responsible for the development of the ability to sound words out. The ability to use phonics and to sound words out, in turn, is primarily responsible for the development of context-free word-recognition ability. Context-free word-recognition ability, moreover, is primarily responsible for the development of the ability to read connected text and comprehend it.[27]

Spoken language and written language are very different, and mastery of each requires unique skills and proficiencies. Many children who are challenged in learning written language are relatively proficient

in spoken language. Spoken language systems are learned automatically, without conscious instruction, when children share experiences and language with caretakers. Spoken language comprises deeply networked rules for sound production and sentence construction that are devised and learned by a community of language speakers. Written languages, in contrast, are arbitrary systems that use a variety of symbols for words, concepts, syllables, and sounds. Written English, in contrast to spoken English, uses a much wider vocabulary and more complex, formal syntax to convey meaning. Reading and writing require mastery of a special language with a special skill that exceeds our natural abilities.[28]

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The most important skill in the beginning stages of reading is the ability to read single words completely, accurately, and fluently. Most of the variability in reading achievement at the end of first grade is accounted for by children's ability to decode words out of context, using knowledge of phonic correspondences. The most common and fundamental characteristic of poor text reading is the inability to read single words accurately and fluently. Skill in word reading in turn depends on both phonological awareness and the development of rapid associations of speech to print.[29]

Context is not the primary factor in word recognition. Context is valuable for deciphering the meanings and uses for unfamiliar words once they have been named or decoded. It also helps to resolve ambiguities that arise from reading words such as *content*, which can be a noun or predicate adjective (or verb). Words are recognized, however, from detailed perceptual data at the average rate of about five words per second. We see what is printed, every letter of it, and our minds recognize letters, sounds, and word pieces simultaneously and interactively as we search for meaning. Good readers are more aware of the details of language structure and more attentive to internal aspects of words than poor readers. They are less likely to use a guessing strategy. In fact, guessing from context leads to egregious errors; only 10 to 25 percent of words are correctly guessed.[30] Recognizing words such as *scarred* and *scared*, *content* and *context*, and *devoid* and *devout* require precise letter-wise decoding skill.

The Consequences of Whole Language for Teachers and Children

Between 1975 and 1995, an entire field rushed to embrace a set of unfounded ideas and practices without any evidence that children would learn to read better, earlier, or in greater numbers than they had with the basal readers in use at the time.[31] Although whole-language believers shunned basal readers in favor of reading programs created by individual teachers from children's books, publishers swiftly jumped on the bandwagon to produce whole-language materials for schools. The California Language Arts Frameworks of 1987 were especially influential in driving publishers away from basic-skill instruction.[32]

Basal programs were marketed and sold, but now without emphasis (or even any lessons) on direct teaching of phonemic awareness, spelling, phonics, grammar, handwriting, or other language skills. Predictable or repetitive text that children could memorize was preferred to stories that required children to sound words out based on what they had been taught. Beyond classroom reading instruction itself, however, whole language has had far-reaching—it is not too much to say corrupting—effects:

Rejection of reliable, valid measures of achievement. In order to justify its love affair with whole language in the face of little or no evidence for its positive results, the field of reading education began to disavow scientific methodology and objective measurement.[33] Between 1989, when Steven Stahl and P.D. Miller conducted their first major review of the evidence, and 1994, when they updated their analysis, twenty of forty-five studies that purportedly evaluated the effectiveness of whole language declined to use or report any standardized measure of reading achievement. Instead of acknowledging that objective assessments were proving them wrong, many reading-education researchers rejected objectivity itself. Those invested in defending whole language criticized traditional achievement tests as unauthentic and replaced them with measures of motivation, enjoyment, or self-esteem. Attitude, not achievement, became the outcome of concern in the reading education research community. A positive attitude toward reading was expected to lead children automatically into more and better reading. Many reading-education researchers replaced standardized, reliable, validated assessments with alternative assessments that probed attitudes. The goal of teaching became love of reading, not the ability to read. The effects of whole-language methods on student achievement were thus impossible to determine.

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Teachers were easily persuaded that the science of behavioral measurement had little to offer them. The schools of education did not require their own students to understand concepts such as behavioral sampling, correlation, prediction, reliability, validity, and normative standards. Teachers were seldom obliged to inform instruction with samples of critical component reading skills: phoneme blending and segmentation, sound-symbol association knowledge, decoding and spelling of regular spelling patterns, text-reading fluency, or vocabulary knowledge. Instead, teachers were and are taught to use forms of reading assessment that have little reliability or correspondence to research-validated outcome measures. The goal in whole language is to measure the process of reading, not the product of instruction—a difficult mission to accomplish even when the reading process is well conceived.

Miscue analysis and "running records" have been and continue to be widely promoted whole-language tools.[34] Even within the past year (1999), Connecticut was teaching the value of running records and miscue analysis in state advisories on reading. A running record measures fluency and accuracy in oral reading of a "leveled" book (not a norm-referenced passage) and asks the teacher to classify a child's errors according to which cueing system produced each of them. Although oral-passage reading rate and accuracy are good measures of overall reading ability because they measure word-recognition speed and accuracy, the classification of "miscues" is unreliable, invalid, and a waste of the

teacher's time.[35] Practically speaking, one teacher is not likely to classify the errors in the same way as the next teacher, students are not likely to have similar miscue patterns from one day to the next, and the relationship between miscue patterns, reading achievement levels, and response to reading instruction has never been demonstrated.[36] When teachers are not able to measure valid constructs with reliable tools, they cannot use classroom assessments to direct their teaching.

Error analysis has value when based on a defensible understanding of reading and spelling processes. It is worthwhile if it helps us determine what kind of problem a child has, what kind of information that child needs, and what kind of instructional activities are likely to work well. Miscues and running records do not meet these criteria.

Minimizing the importance of language structure for teachers and students. In the whole-language context, neither students nor teachers need to know specific concepts about the structure of spoken or written language. Speech sounds, syllables, spelling correspondences, sentence parts, grammatical categories, and cohesive devices are minimized together. If holism and contextual learning are valued, then language parts become unimportant. If students are to learn reading and spelling through imprinting, modeling, and discovery, then teachers need not know explicit linguistic analysis. If concepts can be taught minimally in mini-lessons, then they do not need to be defined with precision, understood in relation to one another, or taught methodically. Pre-determined sequences, selection of component skills, and planned lessons in which skills are systematically developed are unnecessary. Teachers can get by knowing very little about their language; their own knowledge gaps will not be exposed during a whole-language lesson.

Cursory treatment of linguistic concepts continues to be applauded in descriptions of well-taught whole-language lessons. A recent article in the IRA journal, *The Reading Teacher*,[37] describes an exemplary whole-language teacher at work. She is helping a child sound out the word *happy*.[38] The teacher informs the child that the sounds are /h/ /a/ /p/ /p/ /y/. This information, however, is inaccurate: the doubled letter in *happy* is a spelling convention. There is only one /p/ sound in *happy*. The letter is doubled because of the juncture of two syllables, the first of which has a short vowel. This student has been misinformed by the teacher's explanation, but the teacher (and *The Reading Teacher*'s editors) remains in the dark as well.

The same teacher goes on to help another child decode *nose*. She asks him what letters the word begins and ends with (*n* and *e*). Then, the teacher asks the child what the letter *e* stands for, and the child says /e/. Next, the teacher says that the *e* is silent and points to the other vowel, *o*. She tells the child that the *o* will be long and will say its name. Finally, she instructs the child to look at the picture and guess what word starts with an *n*. The child doesn't respond. The teacher says it starts with /n/ and points to the picture; the child finally gets *nose*. The aversion to direct teaching of language, based on accurate analyses of phonology and orthography, persists.

Knowing the speech sounds in *apple* or *happy* and the syllable conventions that underlie such spellings is uncommon among recently trained reading teachers.[39] Knowing how to teach a language concept so that children are led systematically to grasp it is even less common. These gaps in professional content knowledge adversely affect the children. In interchanges such as those just cited, the students have been short-changed; the information provided to them is incomplete, inaccurate linguistically, and ineffectively taught. The students' propensity to guess from partial understanding is reinforced because they have not been taught systematically how the spelling patterns work or practiced the associ-

ations so that they can be used successfully at the next encounter. They have been encouraged to guess from context because they do not have the skill to read the new words independently. Of greatest concern, the leading journal for teachers of reading portrays such instruction as exemplary because it minimizes the teaching of word analysis and focuses the child on meaning.

Misunderstanding of the role of skills in competent performance. A most unfortunate legacy of whole language has been the denigration of skill building and skill instruction in the name of holism. The word *skills* has been repeatedly associated with pejorative terms such as *boring*, *isolated*, *meaningless*, and *dreadful* in whole-language rhetoric. Skill building is never described as necessary, engaging, satisfying, or enjoyable, or identified as the essential base on which expert performance is constructed. Out on this limb, the field of reading education has rejected major premises of cognitive psychology. John Anderson, a cognitive psychologist at Carnegie Mellon University who won an achievement award from the American Psychological Association in 1995, commented in his acceptance address:

> The theory [of knowledge acquisition] implies that acquiring competence is very much a labor-intensive business in which one must acquire one-by-one all the knowledge components. This flies very much in the face of current educational fashion, but...this educational fashion is having a very deleterious effect on education. We need to recognize and respect the effort that goes into acquiring competence.[40]

Competence, he explains, is more than the sum of its parts: it depends on deployment of the right information for the right purpose at the right time. Having at one's disposal a large storehouse of organized and defined information is prerequisite for complex applications of facts, concepts, and skills.[41]

Equation of teacher empowerment with freedom from structured curricula. Professions are generally defined by the knowledge and skill that their members share. The public interest depends on such definition and the ability of the professional community to regulate itself accordingly. Whole language, however, promotes the ideas of teacher independence and self-sufficiency. Instead of encouraging the development or dissemination of better instructional programs, or encouraging teachers to apply best practices validated by others, whole-language educators encouraged teachers to invent their own individual curricula and to rely primarily on their own experience to make instructional decisions. Even now, reading education professors in the U.S. continue to rail against education policies that impose constraints or directives ("mandates") about curriculum or methods, complaining that the loss of control by classroom teachers over what they do in their classes is a threat to both democracy and professionalism.[42] In the climate perpetuated by such rhetoric, teachers' incentives to collaborate, to replicate best practices, or to study research are diminished.

Whole Language Persists

The stubborn persistence of unsupported ideas and practices in reading education (indeed, all of education) puzzles and dismays many people outside the field. When a field continues to value philosophy over evidence that certain practices benefit children more than others, we must ask why this is the case.

Ideology is valued over evidence. One straightforward explanation for the nonsense that infects reading education must be a pervasive lack of rigor in academic education departments. In reading, anyone who publishes in any form is customarily referred to as a "researcher" in conference programs. Reading associations' "research symposia" routinely include speakers whose work bears no relation to objective methods of inquiry. Reading conferences most often attended by teachers are primarily marketing conventions for publishers, trainers, and others with products and services to promote.

Reading-research journals publish articles that defy any reasonable standard of acceptable methodology. For example, a recent issue of *The Reading Teacher* (spring 2000) includes an article in which "researchers" visited eight preselected whole-language classrooms to document what the teachers were doing. Only teachers who used methods consistent with whole-language theory were included in the study.[43] The *a priori* assumption communicated to readers was that good teachers are whole-language teachers. The number of citations on reading screened by the National Reading Panel (100,000) is many times larger than the few dozen studies that ultimately informed the panel's conclusions.[44] The number of scientifically credible studies of reading instruction is relatively small in comparison to the volume of work that is done.

Unfortunately, lack of rigor and disrespect for evidence in reading instruction are reinforced by the passivity of education leaders who feel that any idea that can muster a vigorous advocate is legitimate and deserves to be aired.

Unfortunately, lack of rigor and disrespect for evidence in reading education are reinforced by the passivity of education leaders who feel that any idea that can muster a vigorous advocate is legitimate and deserves to be aired. The Association for Supervision and Curriculum Development published a monograph in 1998 entitled *Perspectives in Reading Instruction*. Rather than taking a stand about which points of view were grounded in evidence and which were without foundation, the ASCD published a diatribe by Ken Goodman against National Institutes of Health research and a marketing piece by Marie Carbo (a proponent of Learning Styles, another misinformed approach without scientific underpinnings).[45] These coexist in one slim volume with essays by more credible writers, all prefaced with the comment that "multiple voices...must be heard."[46] In October 1999, *Educational Leadership* included an article entitled "Whole Language Works: Sixty Years of Research," by three authors who caricature code-emphasis instruction ("'Decodable text' is the new trend in reading"[47]); make statements that contradict every authoritative research summary on reading ("[C]ontemporary research on early reading strongly endorses a holistic approach"[48]); and misrepresent the views of authors who are referenced, such as Carol Chomsky.[49] The field would be better served by editorial policies that result in the reader's enlightenment, rather than policies that contribute to the reader's confusion.

Whole-language incarnations, such as Reading Recovery, covertly embody whole-language ideas. The success and persistence of Reading Recovery (RR) exemplifies the power of ideology over evidence. RR is an expensive, first grade, one-on-one tutorial intervention approach that is compatible with whole-language ideas. It is promoted by a parent institute in Ohio that was founded to disseminate the ideas of Marie Clay, a New Zealand educator. Within a structured lesson format, RR embraces

many whole-language premises.[50] The leaders of RR in the United States, Irene Fountas and Gay Su Pinnell, are popular proponents of "guided reading" approaches and other classroom extensions of RR. In a 1999 newsletter from their institute, they describe a typical lesson, claiming that it is designed to build the competencies endorsed by the National Research Council's 1998 report on preventing reading difficulties in young children.[51] In the same piece, Fountas and Pinnell endorse running records, predictable texts, incidental phonics instruction, teaching children to guess at words from context and initial letter, the importance of cueing systems, and decoding by analogy. They argue that there should be no predetermined sequence for decoding instruction; decoding should be taught as students compose their own sentences and stories.

New Zealand Professor William Tunmer and his colleagues have been carefully critical of RR for a decade, producing one study after another that illuminates the flaws of the Reading Recovery approach. Tunmer's group most recently conducted research commissioned by the New Zealand Ministry of Education and presented at the American Educational Research Association.[52] They asked basic questions that have never been systematically investigated by the promoters who profit from the program: Who succeeds with RR? Who does not? Are there short-term or long-term benefits? Will other approaches be more effective? Is the expense justified? What happens to the students who do not succeed?

Their findings, obtained under controlled and well-designed conditions of scientific investigation, were consistent with previous studies. Success in RR was a function of students' entering phonological abilities. Participation in the program did not eliminate or reduce phonological deficiencies. Students with phonological difficulties did poorly. The program did not produce accelerated reading performance. One year later, the children's reading was about one year below age-appropriate levels, even though they had progressed through the sequence of books used in the RR program. Children who had not progressed well showed declines in reading self-concept after RR, more negative perceptions of their reading and spelling ability, and problems with academic self-concept a year later. They also had more classroom behavior problems. In conjunction with previous studies, Tunmer's group concluded that RR may be more effective if greater emphasis is placed on development and use of word-level skills and strategies involving phonological information. Tunmer has reported several times that direct, systematic instruction in sound-symbol decoding is more effective than the incidental instruction used by RR. In one study, the RR approach was 37 percent less efficient than the direct, systematic approach because letter-to-phoneme knowledge is primarily responsible for driving the development of word-recognition skills.[53]

Have these reports caused RR's promoters or consumers to change their rationale, methodology, student-assessment practices, or requirements for teacher training? Evidently not. Although individuals and training sites may differ, the official line from RR leaders remains virtually the same as it has been for two decades. The institute continues to teach a flawed conception of reading psychology and a methodology that would be significantly improved if it were aligned with the results of research. Regrettably, this has not happened. The resistance to change is difficult to understand, but it may simply reflect the expectation by RR leaders that consumers will not care about the research. So far, they have been right.

State standards and frameworks continue to reflect whole-language ideas. States' academic standards commonly reflect prevailing educational philosophies. Once established, they change slowly. Meanwhile, they influence practice.

New Jersey's Language Arts Literacy

Curriculum Framework, passed in the fall of 1998, is reminiscent of California's 1987 framework. In the entire document, there is no directive for the systematic instruction of sound-symbol decoding or knowledge of other language structures. The reading objectives address only comprehension and higher-level text interpretation, with the exception of "Use print concepts in developmentally appropriate ways."[54] Suggested activities to teach reading include pointing to text, reading it aloud, and establishing "one-to-one matching." Cutting up the words of the sentences and sequencing them is advised. Phonemic awareness is to be taught by finding rhyming words in a familiar text. Phoneme identity, spelling correspondences, syllables, and meaningful parts of words (morphemes) are not to be the content of instruction at all, according to this document. Children in New Jersey apparently are expected to read by imprinting and osmosis. Similar expectations characterize the standards of Vermont, Ohio, and North Dakota, among others.

> States' academic standards and frameworks commonly reflect prevailing educational philosophies, including whole-language ideas.

Even states with generally praiseworthy standards for language arts can sometimes slip when it comes to essentials of early reading instruction. Massachusetts' new standards, for example, are excellent for third grade and up, as judged by several reviews by Achieve, Inc. and the Thomas B. Fordham Foundation.[55] Students are expected to know language structure at several levels, and to read a broad sampling of worthwhile literature. The early literacy portion of the document, however, includes a sample lesson that could be taken from a whole-language handbook.[56] In this literature-focused lesson, there is no instruction in sound-symbol relationships beyond initial consonant decoding, no instruction in left-to-right sound blending, and no control over the sound-symbol patterns taught. It is not explained how the children should learn to read other than guessing from context and an initial consonant. Commendable though the Bay State's new language arts framework generally is, issues in early reading need clearer explication lest they sow confusion in the primary classroom.

Indiana is another state whose standards are now admirable except for some specifics of early reading. The Hoosier State's revised English Language-Arts Standards expect only that kindergarten children will "recognize consonant sounds that are the same or different at the beginning of spoken words and identify the consonants that make different sounds at the beginning of spoken words (Which word begins with the letter b? fish, ball, cat.)." Indiana is to be commended for addressing the domain of phonological learning, but sound blending, segmenting, and the association of sounds with symbols should be included in their standards, too.

What Next?

Advocates for education reform and improvement may be surprised that we have not slain the monster of misinformed reading instruction. After all, a half dozen major consensus documents on the research evidence about reading have been widely distributed, digested, and converted into policy. Classroom practice and academic education, however, are not changing fast enough for us to claim that evidence-based teaching will predominate in our schools at any time soon.

Whole language may have been dis-

proven by scholars, but it still lurks in many corners of education practice: in textbooks for teachers, instructional materials for classroom use, teacher-licensing requirements, courses and standards for teacher education, and the professional context in which teachers work. As a consequence, too many children are not doing as well as they could be, and others are falling by the wayside in beginning reading, never to get on track, even though this failure is largely preventable. Not all children are adversely affected, to be sure; many children learn to read in spite of how we teach them, and many teachers *are* teaching reading well. Nevertheless, it is those children who depend the most on valid and effective instruction in school, including minority, low-income, immigrant, and inner-city children, who are most likely to be harmed by persistent whole-language ideology and its manifestations in practice.[57]

Minority, low-income, immigrant, and inner-city children are the pupils most likely to be harmed by persistent whole-language ideology and its manifestations in practice.

Confronting and changing the legacy of whole language is a mission yet to be accomplished. Righting reading instruction calls for continuing effort on eight separate fronts.

1. Every state should have language-arts content standards and curricular frameworks for each grade from kindergarten through third grade. These should be explicitly based on research findings on phonemic awareness, alphabetic skills, reading fluency, beginning and advanced decoding skills, vocabulary, and comprehension. California and Texas have done especially well in this regard and should be emulated—but even they need to ensure that practice follows policy.

2. State assessments of reading and language arts should be calibrated to show the effects of reading instruction as delineated in well-written state standards.

3. State accountability systems should emphasize the attainment of grade-appropriate reading, spelling, and writing skills by third grade, so that actions can be taken quickly to (a) provide meaningful and effective remediation to the students who have fallen by the wayside; and (b) reorganize or disband failing schools or provide parents with alternative placements for their children. To this end, the efforts of states such as Texas and Virginia to develop a valid screening tool for reading in grades K-2 are laudable.

4. States should adopt rigorous licensing examinations for new teachers and veteran teachers alike. States must be clear and specific in their delineation of research-based practice, so that little incentive remains for the perpetuation of unsupported ideas such as those of whole language. Knowledge of reading development, language structure, reading pedagogy, and assessments would seem minimally necessary for effective, informed instruction. Licensing exams should probe actual mastery of specific components of reading instruction. Classroom practices at the school level should be based on best practice and be open to independent review by others who are knowledgeable about the issues.

5. Because state university reading departments have been the slowest to change and the most tenaciously loyal to whole-language ideology, alternative teacher-preparation programs should be encouraged and supported. If disillusioned consumers are able to look elsewhere for teachers who can pass a licensing exam and demonstrate their competence with students, entrenched academic departments may feel more pressure to improve.

6. Traditional schools and programs of education should be organized differently. Professional preparation of effective teachers should be their focus. Faculty tenure would be abolished. Faculty would maintain positions if they could successfully collaborate with a team in the preparation of competent teachers. Professional schools for teaching would be partners with departments of core disciplines including linguistics and psychology. Faculty members would be eligible for their role if they themselves had been successful practitioners in K-12 classrooms.

7. State-guided textbook adoptions should be regulated according to the alignment of the material with research evidence for what works best. Publishers should be required to show for whom their product works and under what conditions.

8. Journalists and policymakers need to untie the string and closely examine the innards of instructional programs and packages that are offered in the name of "balanced" reading.

What children bring to the printed page, and to the task of writing, is knowledge of spoken language. What must be learned is knowledge of the written symbols that represent speech, and the ability to use those productively. Knowing the difference between *sacks* and *sax*, *past* and *passed*, or *their* and *there*, or knowing that *antique* says "anteek," requires language awareness and attention to detail. Students who are not taught properly are less able to sound out a new word when it is encountered, slower and less accurate at reading whole words, less able to spell, less able to interpret punctuation and sentence meaning, and less able to learn new vocabulary words from reading them in context. Students deserve to have sufficient understanding of the language they speak, read, and write so that they can use it to communicate well. Ironically, whole language has stood in the way of this accomplishment for many years. Today, its influence is still with us. If sufficient attention is promptly given to changes such as those outlined above, tomorrow may yet be a different story.

Notes

[1] See Marilyn J. Adams, "The Progress of the Whole-Language Debate," *Educational Psychologist* 29, no. 4 (1994): 217-222; and Michael Pressley, "State of the Science Primary-Grades Reading Instruction or Whole Language?" *Educational Psychologist* 29, no. 4 (1994): 211-215.

[2] See Learning First Alliance, "Every Child Reading," *American Educator* 22, no. 1-2 (1998): 61.

[3] See National Reading Panel, *Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction* (Washington, DC: National Institute of Child Health and Human Development, 2000): 9-11.

[4] See Penny A. Freppon and Karin L. Dahl, "Balanced Instruction: Insights and Considerations," *Reading Research Quarterly* 33, no. 2 (1998): 240-251.

[5] See Ellen McIntyre and Michael Pressley, eds., *Balanced Instruction: Strategies and Skills in Whole Language* (Norwood, MA: Christopher-Gordon, 1996).

[6] The National Reading Panel's report *Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction*, issued in April of 2000, provides a credible screening, analysis, and interpretation of the highest quality research on reading interventions.

[7] See Marilyn Adams, *Beginning to Read: Thinking and Learning About Print* (Cambridge, MA: MIT Press, 1990); Michael Pressley, *Reading Instruction that Works: The Case for Balanced Teaching* (New York: Guilford Press, 1998); and Catherine E. Snow, M. Susan Burns, and Peg Griffin, eds., *Preventing Reading Difficulties in Young Children* (Washington, DC: National Academy Press, 1998).

[8] See Steven A. Stahl and P.D. Miller, "Whole Language and Language Experience Approaches for Beginning Reading: A Quantitative Research Synthesis," *Review of Educational Research* 59, no.1 (1989): 87-116.

[9] See Karin L. Dahl and Patricia L. Scharer, "Phonics Teaching and Learning in Whole Language Classrooms: New Evidence from Research," *The Reading Teacher* 53 (2000): 584-594; Harvey Daniels, Steve Zemelman, and Marilyn Bizar, "Whole Language Works: Sixty Years of Research," *Educational Leadership* 57, no. 2 (2000): 32-37; Kenneth S. Goodman, *Phonics Phacts* (Portsmouth, NH: Heinemann, 1993); Kenneth S. Goodman, *What's Whole in Whole Language?* (Portsmouth, NH: Heinemann, 1986); Margaret Moustafa, *Beyond Traditional Phonics* (Portsmouth, NH: Heinemann, 1997); and Constance Weaver, "On Research and the Teaching of Phonics," in *Creating Support for Effective Literacy Education*, ed. Constance Weaver, Lorraine Fillmeister-Krause, and Grace Vento-Zogby (Portsmouth, NH: Heinemann, 1996), xv-xvii.

[10] Kenneth S. Goodman, "Reading: A Psycholinguistic Guessing Game," *Journal of the Reading Specialist* 6 (1967): 126-135; and Frank Smith, "Making Sense of Reading—And of Reading

Instruction," *Harvard Educational Review* 47 (1977): 386-395.

[11] Frank Smith, *Understanding Reading: A Psycholinguistic Analysis of Reading and Learning to Read*, 2d ed. (New York: Holt, Rinehart, and Winston, 1978).

[12] A basal reader is a classroom reading textbook. It usually includes stories of graded difficulty, some control over the vocabulary that is introduced, and supportive lessons in various skills necessary for learning to read. Classrooms often have the same text for every student, even though students are grouped according to their reading levels for smaller group instruction.

[13] See Daniels, Zemelman, and Bizar, "Whole Language Works"; and Debbie Powell and David Hornsby, *Learning Phonics and Spelling in a Whole Language Classroom* (New York: Scholastic Professional Books, 1993).

[14] Idaho public television in April 2000 aired a program for kindergarten teachers that demonstrated this technique.

[15] Powell and Hornsby, *Learning Phonics and Spelling*, 23.

[16] Ibid., 43.

[17] Ibid., 21.

[18] The "mini-lesson" approach is pervasive in the products of major classroom basal reading programs.

[19] See Kerry Hempenstall, "Miscue Analysis: A Critique," *Effective School Practices* 17, no. 3 (1999): 87-93.

[20] Marilyn J. Adams, "The Three-Cueing System," in *Literacy for All: Issues in Teaching and Learning*, ed. Jean Osborn and Fran Lehr (New York: Guilford Press, 1998): 73-99.

[21] In the California Reading Language Arts Framework, which was written under Bill Honig's term as state superintendent of public instruction in 1987, and which was in effect until 1997, teachers were advised to cover up parts of words that children misread in order to encourage guessing from context. Sounding out was characterized as the strategy of last resort.

[22] A whole-language lesson and contrasting methods are portrayed in Snow, Burns, and Griffin, *Preventing Reading Difficulties*, 200-203.

[23] Pressley, "State-of-the-Science," 213.

[24] See Daniels, Zemelman, and Bizar, "Whole Language Works," 32-37.

[25] Jack M. Fletcher and G. Reid Lyon, "Reading: A Research-Based Approach," in *What's Gone Wrong in America's Classrooms?*, ed. Williamson M. Evers (Stanford, CA: Hoover Institution Press, 1998), 40-90.

[26] See Alvin M. Liberman, "The Reading Researcher and the Reading Teacher Need the Right Theory of Speech," *Scientific Studies of Reading* 3 (1999): 95-111.

[27] See Linnea Ehri, "Phases of Development in Learning to Read Words by Sight," *Journal of Research in Reading* 18, no. 2 (1995): 116-125; Tom Nicholson, "Do Children Read Words Better in Context or in Lists? A Classic Study Revisited," *Journal of Educational Psychology* 83, no. 4 (1991) 444-450; and William E. Tunmer and Wesley A. Hoover, "Phonological Decoding Skill and Beginning Reading," *Reading and Writing: An Interdisciplinary Journal* 5 (1993): 161-179.

[28] See Liberman, "The Reading Researcher."

[29] See Fletcher and Lyon, "Reading: A Research-Based Approach."

[30] See Phil Gough, "The Beginning of Decoding," *Reading and Writing: An Interdisciplinary Journal* 5 (1993): 181-192.

[31] See Steven Stahl, M.C. McKenna, and J.R. Pagnucco, "The Effects of Whole Language Instruction: An Update and Reappraisal," *Educational Psychologist* 29, no. 4 (1994): 175-185; and Steven Stahl and P.D. Miller, "Whole Language and Language Experience Approaches."

[32] Bill Honig, who was superintendent of public instruction in California at the time, has since acknowledged the errors of this document, disavowed the philosophy on which it was based, and extensively revised his position on early reading instruction.

[33] E.D. Hirsch, in *The Schools We Need: Why We Don't Have Them* (New York: Doubleday, 1996), p. 176, calls this "shooting the messenger" in his chapter on test evasion.

[34] See Marie M. Clay, *The Early Detection of Reading Difficulties: A Diagnostic Survey and Reading Recovery Procedures* (Auckland: Heinemann Educational Books, 1985); and Kenneth S. Goodman, *Miscue Analysis: Applications to Reading Instruction* (Urbana, IL: National Council of Teachers of English, 1973).

[35] See Hempenstall, "Miscue Analysis," 87-93.

[36] See James W. Chapman, William E. Tunmer, and Jane E. Prochnow, *Success in Reading Recovery Depends on the Development of Phonological Processing Skills*, report to the Ministry of Education of New Zealand, August 1999 (revised research report for phase three of contract ER35/299/5; presented to the American Educational Research Association, San Diego, April, 1998).

[37] Dahl and Scharer, "Phonics Teaching and Learning," 588.

[38] For many years, *The Reading Teacher* contained almost no articles with any positive reference to phonics, vocabulary, or word analysis; at least the topic is once again permissible, but it is limited to discussion of the exemplary whole-language classroom.

[39] See Louisa C. Moats, "The Missing Foundation in Teacher Education," *American Educator* 19,

no. 9 (1995): 43-51.

[40] John R. Anderson, "ACT: A Simple Theory of Complex Cognition," *American Psychologist* 51, no. 4 (1996): 359.

[41] Ibid., 355-365.

[42] See James Hoffman, "The De-democratization of Schools and Literacy in America," *The Reading Teacher* 53 (2000): 616-623; and Cathy Roller, "The International Reading Association Responds to a Highly Charged Policy Environment," *The Reading Teacher* 53 (2000): 626-636. Hoffman decries the efforts of policymakers to "control" reading education because "mandates" about reading education threaten democracy by taking power away from classroom teachers.

[43] Dahl and Scharer, "Phonics Teaching and Learning," 584-94.

[44] See National Reading Panel, *Teaching Children to Read*, 1, 7, 9, 12, 13.

[45] For a critique of Marie Carbo's "learning styles" theory, see Steven Stahl, "Different Strokes for Different Folks? A Critique of Learning Styles," *American Educator* 23, no. 3 (1999): 27-31.

[46] Association for Supervision and Curriculum Development, *Perspectives on Reading Instruction* (Alexandria,VA: Association for Supervision and Curriculum Development, 1998).

[47] Harvey Daniels, Steve Zemelman, and Marilyn Bizar, "Whole Language Works: Sixty Years of Research, *Educational Leadership* 57, no. 2 (2000): 32.

[48] Ibid., 36.

[49] Ibid., 35-36.

[50] See Irene C. Fountas and Gay Su Pinnell, "How and Why Children Learn About Sounds, Letters, and Words in Reading Recovery Lessons," *The Running Record: A Review of Theory and Practice for Reading Recovery Teachers* 12, no. 1 (1999): 1-14.

[51] Ibid.

[52] See Chapman, Tunmer, and Prochnow, "Success in Reading Recovery."

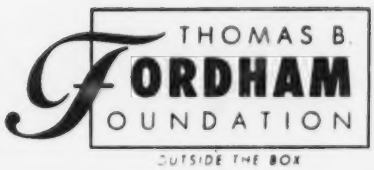
[53] William E. Tunmer and W.A. Hoover, "Phonological Skill and Beginning Reading."

[54] New Jersey State Department of Education, *New Jersey Language Arts Literacy Curriculum Framework* (Trenton, NJ: New Jersey State Department of Education, 1998), 254.

[55] Lynn Olson, "Rating the Standards," *Education Week* 18, no. 17 (1999): 107-09. See also Chester E. Finn Jr. and Michael J. Petrilli, eds., *The State of State Standards 2000* (Washington, DC: The Thomas B. Fordham Foundation, 2000), 68; and Sandra Stotsky, *State English Standards: An Appraisal of English Language-Arts/Reading Standards in 28 States (Complete Edition)* (Washington, DC: The Thomas B. Fordham Foundation, 1997), 19, 88-90.

[56] Massachusetts Department of Education, *Massachusetts English Language Arts Curriculum Framework* (Boston: Massachusetts Department of Education, 1997), 17.

[57] Barbara R. Foorman, David J. Francis, Jack M. Fletcher, Chris Schatschneider, and P. Mehta, "The Role Of Instruction in Learning to Read: Preventing Reading Failure in At-Risk Children," *Journal of Educational Psychology* 90 (1998): 1-15.



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